

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Brian A. Rosenfeld, M.D. and Michael Breslow, M.D.

Serial No.: 09/443,072 Group Art Unit: 2167

Filed: 11/18/99 Examiner: Harle, J.

**For: SYSTEM AND METHOD FOR PROVIDING CONTINUOUS, EXPERT
NETWORK CRITICAL CARE SERVICES FROM A REMOTE LOCATION(S)**

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AFFIDAVIT BY DR. MICHAEL BERMAN

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RECEIVED
TECHNOLOGY CENTER 3600
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I, Dr. Michael Berman, residing at 350 E. 72 Street, New York, NY 10021, state as follows:

1. I obtained my Medical Degree in Medicine in 1967 from State University of New York and Syracuse.
2. My experience includes >20 years in Intensive Care Medicine at Yale and University of Maryland.
3. My Curriculum Vitae is attached to provide further information regarding my background and qualifications that allow me to make the statements contained herein.
4. I have read and reviewed Patent Application Serial No.: 09/443,072 and the attached amended claim set.
5. I have read and reviewed the attached article "Intensive care unit telemedicine: Alternate paradigm for providing continuous care" from *Critical Care Medicine* 2000 Vol. 28, No. 12 by Rosenfeld et al. (the "Rosenfeld Study") describing the clinical study for which Dr. Rosenfeld was the Principal Investigator. I am familiar with the procedures described in this paper.
6. I believe the claimed invention is materially different from the Rosenfeld Study for at least the following reasons:
 - The claimed invention provides centralized monitoring of a plurality of geographically disparate ICUs by intensivists. In contrast, the Rosenfeld Study monitored only

one single specialty 10-bed ICU. It is the capability of the claimed invention to allow a physician-led team, made up of intensive care specialists, critical care nurses, and clerical support personnel (care team), to care for patients in multiple ICU's in disparate geographic locations, either within a building or in different buildings, simultaneously that creates new efficiencies and offers the potential to change the care paradigm for ICU patients. Thus, the expertise of the care team is leveraged over many ICU patients, who could not otherwise (without the claimed intervention) be cared for by a single team.

- In contrast to the Rosenfeld Study where a single intensivist monitored faxed information, or initiated communication to view a single patient's bedside monitor over a personal computer, the claimed invention uses a computerized patient care management system that feeds key clinical information on multiple ICU patients simultaneously to the remote monitoring care team. The claimed invention includes imbedded decision support algorithms that further assist the care team in the continuous monitoring of large numbers of ICU patients. The claimed invention analyzes simultaneously all incoming patient physiologic data (from the bedside monitors) and laboratory data and provides visual alarms for the care team that alert them to detrimental trends in patient vital signs and/or laboratory values that they might not otherwise be aware of. These features of the claimed invention allow a single physician-led team to care for patients in multiple, geographically disparate sites simultaneously. These features are totally lacking from the Rosenfeld Study and are not suggested by the study in any way.
- The claimed invention provides for 24-hour dedicated monitoring/management by a care team. The care team provides this service from a dedicated monitoring facility comprising equipment and decision support algorithms developed explicitly for this purpose. The claimed invention provides for automated warnings relating to vital signs and trends in vital signs, provides assessment of those trends for the intensivist, and makes recommendations for intervention available for consideration by the intensivist. The care team has no other care responsibilities during the time it is monitoring/managing the multiple geographically disparate ICU(s). The attention of the care team is devoted to the ICU patients and only the ICU patients.
- In contrast to the present invention, the Rosenfeld Study provided only 4-5 hours of ad hoc monitoring by a single intensivist from the intensivist's home (i.e. no continuous monitoring, no support personnel, and no dedicated facility). Further, the intensivist monitoring was not triggered in any automated way by any form of decision support algorithms, but was conducted periodically by the intensivist, as he deemed fit and time permitted. The intensivist in the Rosenfeld Study was solely responsible for analyzing the data, deducing trends in the patient's vital signs, assessing the meaning of the trends, and deciding on the corrective action to be taken – without access to any software tools to assist in these tasks. The software tools in the claimed invention create efficiencies that enable a single, intensivist-led team to monitor and care for large numbers of ICU patients.

7. I believe that remote, 24-hour intensivist-led care team monitoring of ICU patients in multiple geographically disparate locations is not taught by the Rosenfeld Study nor would one of skill in the art make the required changes to the equipment and procedures of the Rosenfeld Study to arrive at the present invention for at least the following reasons:

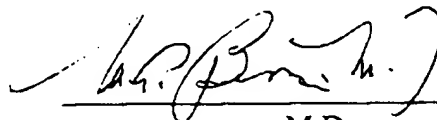
- Remote monitoring and direct intervention of ICU patients is contrary to prior accepted practice, where physicians are physically present in the ICU.
- The generally accepted medical monitoring paradigm in ICU's with intensivists on-staff is for the intensivists to conduct rounds with the staff, and for ICU nurses and other physicians to notify the intensivists of emergencies on an as-needed basis. The Rosenfeld Study subscribed to this generally accepted model of intensivist deployment in ICU's, daily rounds, periodic monitoring, and responding to requests for assistance from on-site personnel.
- The monitoring paradigm presently employed by hospitals is having lower-skilled bedside nurses perform this function. These personnel, with only bedside patient monitoring equipment and visual inspection, are relied on to make the decision to contact specialists, such as intensivists, when problems are detected.
- The invention described and claimed in Application Serial No.: 09/443,072 does not rely on the paradigm of primary monitoring by bedside personnel, with secondary calls to intensivists, but rather has the off-site intensivist-led care team provide continuous, 24-hour monitoring. The care team is capable of unilaterally entering the patient room for video and audio communication, is supported by decision support algorithms that automatically alert the intensivist to detrimental trends in a patients' vital signs and facilitate the intensivist contacting the lower-skilled on-site personnel when interventions are necessary. Although the Rosenfeld Study included intensivist-initiated intervention through on-site physicians, the lack of 24-hour continuous monitoring illustrates that the prior art monitoring paradigm was still considered valid by those in the Rosenfeld Study.
- The Rosenfeld Study disclosed nothing of the technological nature disclosed in the claimed invention. Indeed the only way the intensivist had contact with the ICU and/or access patient data was for the intensivist to intermittently conduct active dial-up direct monitoring of the real-time bedside waveforms, request information by fax machine, or to telephonically contact an ICU nurse and have equipment (such as a video camera) physically moved to the desired patient location. None of this activity was in response to any system of automated notification to the intensivist and most required actions by on-site personnel.
- The technology tools that were developed in the current invention, such as smart alarms and physiologic data trend analysis, instantly available video monitoring from permanent camera installations in each ICU room, and comprehensive data links to the command center, were not available at the time of the original clinical study nor was their use suggested in any way.

- The initial clinical study never addressed the potential for a single monitoring site for overseeing the care of patients in multiple ICU's, thereby leveraging the expertise of an intensivist over a number of ICU's in geographically disparate locations.
 - The original trial technology suite could not have been used over multiple ICU's in different geographic locations.
 - At the time the clinical study it was unprecedented to have an intensivist functioning in a dedicated monitoring capacity and NOT attending to other functions.
 - During the Rosenfeld study, an intensivist was required to monitor, on an ad hoc basis, over a 24-hour shift. Continuous monitoring over such a long time period is too physically and mentally taxing to be feasible. In contrast, the system of the current invention allows for constant monitoring by an intensivist-led care team functioning on a normal 6-12 hour shift thereby alleviating both the physical and mental stress associated with a 24-hour shift.
 - The Rosenfeld study was not the same model as that used in the present invention's model. The functioning of the current system constitutes an entirely different manner of monitoring multiple, geographically disparate ICU's than the clinical study which monitored but a single ICU without the analytical support offered in the present invention system.
 - For a variety of licensing and clinical reasons, the clinical study was not a feasible model for hospitals to use for ICU care. Individual hospitals would not have established intensivists at remote locations to monitor a single ICU at the hospital, having only the technology described in the study as a supporting infrastructure.
 - When compared to the prior standard of care, that is, an on-call intensivist responding to calls from on-site nurses, the results of using the present invention are remarkable, resulting in far better outcomes for ICU patients and far earlier intervention in life-threatening trends.
8. I believe that providing either a computerized patient care management system or a set of decision support algorithms to a remote care team (or a combination thereof) is not taught by the Rosenfeld Study, and neither the paper nor the standard practices of the time would suggest such a modification for at least the following reasons:
- The use of computerized patient care management systems at the time of the invention was limited, even in major hospitals, to the recording of patient data for later review by physicians, and to isolated on-site systems that sound an audible alarm when an extreme condition in a patient's vital signs is reached (i.e. cardiac arrest). Further, computerized decision support algorithms in the medical community were not available.

- When computerized patient care management systems are deployed by hospitals, they are provided at the bedside or ICU nursing stations. They are not provided remotely to a physician. Instead, physicians are contacted by a bedside nurse (via a "pager") to inform them that a problem has developed.
- Since the accepted wisdom of the medical community is to deploy patient care management systems and/or paper-based decision support for lower-skilled medical care givers on-site, there would be no reason to deploy these systems at a remote site for a care giver having the higher-skills of an intensivist.

9. The Rosenfeld Study evaluated the potential of "currently available technology" to "extend the effective reach of intensivists," but failed to disclose or suggest any of the additional technology of the presently claimed invention, such as (i) intensivist access to patient care management systems and/or decision support algorithms, that are required to effectively scale the monitoring to a greater number of patients and (ii) central command center monitoring that is required to effect a viable remote ICU monitoring model, (iii) monitoring of a plurality of geographically disparate healthcare locations/ICUs from a single remote command center, (iv) the use of a care team to enable monitoring and intervention on multiple patients in geographically different locations and (v) a data server/data warehouse for storing and analyzing data.

Date: 10-9-02



M.D.

Title **Executive Vice President & Hospital**
Affiliation **Director**

New York Presbyterian Hospital

WITNESS MY HAND and seal this 9th day of October, 2002.

Michael A. Berman, M.D.

Type Name Here

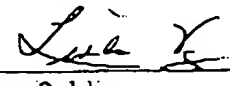
STATE OF NEW YORK)

) ss:

COUNTY OF NEW YORK)

On this 9th day of OCTOBER, 2002 personally appeared before me Michael Berman to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he executed the same, of his own free will and for the purposes set forth.

LINDA VEGA
Notary Public, State of New York
No. 39-499-2892
Qualified in Bronx County


Notary Public

My Commission Expires Commission Expires March 2, 2006

MICHAEL A. BERMAN, M.D.
CURRICULUM VITAE

PERSONAL

Birthdate: September 11, 1942
Birthplace: Brooklyn, New York
Spouse: Susan S. Swift, DPA
Social Security # 100-32-8721

Home Address:
350 East 72nd Street
Apt. 1A
New York, New York 10021

Office Address:
The New York and Presbyterian Hospital
161 Ft. Washington Avenue
Atchley Pavilion Room 1456
New York, New York 10032
(212) 305-0404
(212) 305-3637 (FAX)

Current Position Executive Vice President
New York Presbyterian Health Care System
Director, New York Presbyterian Hospital

EDUCATION

1960-1961 Bucknell University
1961-1963 University of Buffalo (Psychology)
1967 M.D. State University of New York, Upstate Medical Center at
Syracuse (SUNY Upstate)

TRAINING

1964 Summer Fellow, Department of Biochemistry (SUNY Upstate)
1965-1966 Summer Fellow, Pediatric Cardiology. (SUNY Upstate).
1967-1968 Intern, Department of Pediatrics. The Johns Hopkins
Hospital, Baltimore, Md.

**CLINICAL AND ACADEMIC
APPOINTMENTS**

1968-1970 Pediatric Associate.
National Heart and Lung Institute,
Cardiology Branch, Bethesda, Md.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 2

1968-1970	Pediatric Cardiology Consultant National Institute of Health
1968-1970	Pediatric Consultant. National Heart and Lung Institute. Surgical branch.
1970-1972	Instructor. Yale University School of Medicine, Department of Pediatrics. New Haven, Connecticut.
1970-1975	Associate Attending. Yale-New Haven Hospital. New Haven, Connecticut.
1971-1976	Director, Pediatric Cardiac Catheterization Laboratory. Yale-New Haven Hospital. New Haven, Connecticut.
1972-1975	Assistant Professor. Yale University School of Medicine, Department of Pediatrics. New Haven, Connecticut.
1974-1976	Coordinator, Clinical Pediatric Cardiology. Yale-New Haven Hospital. New Haven, Connecticut.
1975-1976	Attending. Yale-New Haven Hospital. New Haven, Connecticut.
1975-1976	Associate Professor. Yale University School of Medicine, Department of Pediatrics. New Haven, Connecticut.
1975, May	Visiting Professor, Walter Reed Army Medical Hospital.
1976-1997	Professor. University of Maryland School of Medicine. Baltimore, Md.
1976-1985	Director, Division of Pediatric Cardiology. University of Maryland Hospital. Baltimore, Md.
1977-1997	Attending. The Union Memorial Hospital. Baltimore, Md.
1977-1997	Consultant in pediatric cardiology. St. Joseph's Hospital.
1977-1997	Consultant in pediatric cardiology. Mercy Hospital. Baltimore, Md.
1978	Visiting Professor, National Institutes of Health/Maternal & Child Health Branch.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 3

1978-1997	South Baltimore General Hospital. Baltimore, Md.
1978-1997	Consultant. State of Maryland. Division of Crippled Children's Services. Baltimore, Md.
6/93	Visiting Professor. Ben Gurion University of the Negev. Israel
5/83-9/84	Acting Chairman, Department of Pediatrics. University of Maryland School of Medicine. Baltimore, Md.
9/84-10/97	Chairman, Department of Pediatrics. University of Maryland School of Medicine. Baltimore, Md.
10/15/97	Lecturer in Pediatrics Columbia University College of Physicians and Surgeons
10/97 – 9/98	Senior Vice President and Chief Medical Officer The New York Presbyterian Hospital
9/98	Executive Vice President – New York Presbyterian Healthcare System and Hospital Director – New York Presbyterian Hospital
6/98 – 6/99	Attending, pediatric services. New York Presbyterian Hospital, Columbia-Presbyterian Campus.
10/99 – 9/00	Professor of Clinical Pediatrics, Cornell University

TEACHING APPOINTMENTS

1970-1976	Yale University School of Medicine, Department of Pediatrics, Cardiology. New Haven, Connecticut.
1976-1997	Professor of Pediatrics, University of Maryland School of Medicine, Department of Pediatrics.
09/11/98	New York University/Cornell University Medical College. "The Physician as Manager: Opportunities and Constraints". Five-day course in health care management for faculty physicians.
7/1/98	Professor of Pediatrics Columbia University College of Physicians and Surgeons

BOARDS

American Board of Pediatrics. Certified March, 1975.

Sub-Board of Pediatric Cardiology. Certified May, 1975.

LICENSURE

Connecticut
Maryland - D-1980 (inactive)
New York - 209200

AWARDS & GRANTS

Young Pulmonary Research Investigator.
National Institutes of Health: Metabolism of Vasoactive Hormones by Newborn Lung. July, 1974-June, 1976. \$50,000. (Principal Investigator).

American Lung Association: Metabolic Function of the Newborn Lung: Amine Metabolism. July, 1974-June, 1976. \$39,900. (Principal Investigator)

Connecticut Heart Association: Deactivation of Vasoactive Hormones by Newborn Lung. July, 1975-June, 1976. \$12,500. (Principal Investigator).

National Institutes of Health, Biological and Physiological Aspects of SIDS, (cardiology participant). July, 1977-June, 1982. Principal Investigator Alfred Steinschneider, M.D.).

National Institutes of Health. Cooperative study on Management of Patent Ductus Arteriosus in premature Infants (Principal investigator, Alexander S. Nadas, M.D.; Principal investigator, University of Maryland, Michael Berman, M.D.). September, 1978-August, 1981. Total study \$2,149,829; University of Maryland \$190,107.

Thomas Wilson Foundation. Identification and Assessment of Post-Operative Arrhythmias in Children Undergoing Open Heart Surgery. (Principal Investigator). July, 1978-June 1979, \$10,000; renewed July, 1979-June, 1980 \$15,500.

Upjohn Company. Maintenance of Patency of the Ductus Arteriosus in Congenital Cardiac Lesions; participating center, 1979-1981.

National Institutes of Health. Twenty-four hour Blood Pressure in Adolescents. (Principal Investigator, Charlotte Ferencz, M.D.; Co-principal Investigator, Michael A. Berman, M.D.). April, 1981-1983, \$281,430.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 5

National Institutes of Health, Environmental Risk Factors in Congenital Heart Disease. (Principal Investigator, Charlotte Ferencz, M.D.; Principal Investigator University of Maryland, Michael A. Berman, M.D. Pediatric Cardiology April, 1981 - 1986 (1983 - Present Joel I. Brenner assumed University of Maryland lead) \$1,139,940.

Consultant to the medical/dental faculty retreat on positioning the Howard University Hospital for the future. Washington, DC, March 21-22, 1997.

HONORS

March, 1993

Honoree. Heart to Heart International Society on Hypertension in Blacks, Inc. Annual Humanitarian Awards Ceremony honoring Humanitarians in Cardiology. Baltimore, MD.

October, 1993

Recipient of the Helen B. Taussig Award by the American Heart Association, Maryland Affiliate, for excellence in cardiovascular medicine, advancing the understanding and/or treatment of heart disease, especially in children.

November, 1993

Recipient. Children's Cancer Foundation Award of Appreciation for contributions to their work.

**ORGANIZATIONS, COMMITTEES
AND SOCIETIES**

Local

Connecticut Heart Association
1970-1976

Connecticut Hezekiah Beardsley Chapter, American Academy of Pediatrics December, 1974.

Medical Advisory Board. Save-a-Heart Foundation. 1977-Present

Board of Directors, American Heart Association, Central Maryland Chapter; 1977-1982.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 6

Member, Subcommittee on Cardiovascular Disease in the Young, American Heart Association, Central Maryland Chapter; 1978-1979.

Vice-President, American Heart Association, Central Maryland Chapter; 1979-1980.

Chairman, Research Committee, American Heart Association, Central Maryland Chapter, 1979-1981.

Member, Gilda's Club Medical Resource Council.

Member, State Health Planning Council, Task Force. Cardiac Surgery and Cardiac Catheterization, State of Maryland; 1979 - 1985

Member, Maryland Society for Medical Research; 1979-1997.

Member, Research Committee for Central Maryland Heart Association. Peer Review Subcommittee - the Class of 1985; 1981-1985.

Member, Baltimore City Medical Society 1985 - 10/97

Board of Trustees
Mt. Washington Pediatric Hospital/System
June, 1986 - 1988; September, 1992 - 06/30/97

Member, Executive Committee
Maryland Chapter, American Academy of Pediatrics; 1987 - Present

Member, Demonstration Project for Pediatric Emergency Medical Systems in the State of Maryland. (Coordinated by the State of Maryland Institute for Emergency Medical Service Systems.) June, 1987-1991.

Member, Board of Directors, Variety Club of Baltimore, Tent 19, Variety Clubs International; May, 1988 - 1997

Chairman, Committee on Child Health Financing, Maryland Chapter American Academy of Pediatrics; November, 1989 - 1992

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 7

Member, Baltimore City Medical Society Legislative Committee 1990 -1992

Member, Liaison Committee with the City Health Department regarding infant mortality, teen pregnancy, and drug abuse. Baltimore City Medical Society. November, 1990-1992

Member, Medical & Chirurgical House of Delegates (Baltimore City Medical Society). Two year term beginning January 1, 1991.

Member, Advisory Panel, Symposium on the Prevention of Chronic Health Problems and Developmental Delay in Infants and Toddlers. State of Maryland, Office for Children, Youth, and Families. 1991 – 1997.

Member, Medical Advisory Board, The Children's Cancer Foundation, Inc.; 1991 - present.

Member, Governor Schaefer's Advisory Task Force for the University Center. (Create signage and traffic flow marketing for geographical area including UMAB campus and Oriole Park at Camden Yards Baseball Park). 1991.

Member, Greater Baltimore Committee, (Baltimore Business Community) Life Sciences Strategy Team. Chair, Children and Families Initiative. September, 1991 - 1994.

President's Commission, Wheaton College, Norton, Massachusetts. October, 1993 – 1997.

Chair, Council on Medical Affairs, Medical and Chirurgical Faculty of Maryland. 1994 - 1995.

Board Member, Frederick Maryland Physicians Network. University of Maryland Medical Center (UMMC) representative. July, 1995 – 1997.

Member, Board of Directors for Maryland Personal Physicians, Inc., primary care organization of the Mercy Medical Center. October, 1995 – October, 1997.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 8

Member, New York County Medical Society. October, 1998 – Present.

Board of Directors, FCG Management Services, LLC (FCG MS) May, 2001

Member, Healthcare Executives' Study Society (HESS), May, 2001

NATIONAL

1969 - Present	Federation for Clinical Research.
1976 - Present	Fellow, American College of Cardiology
1976 - Present	Fellow, American Academy of Pediatrics
1975 - 1985	Association for the Advancement of Medical Instrumentation Cardiovascular Standards Committee
1979 - 1984	Chairman, Balloon Standards Committee Association for the Advancement of Medical Instrumentation
1975 - Present	Member, Section on Cardiology, American Academy of Pediatrics
1980 - Present	Member, Center for Birth Defects Information Series
1982 - 1992	Member, North American Society for Cardiac Radiology.
1982 - June 1984	Editorial Board, American Journal of Cardiology.
1981 - 1988	Member-at-Large, American Heart Association (National) Executive Committee Radiology.
1983 - 1997	Member, Association of Medical School Pediatric Department Chairmen, Inc.
1985 - Present	American Medical Association
1986 - Present	Southern Society Pediatric Research (Elected Membership)
1985 - Present	Northeast Pediatric Cardiology Society

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 9

1986 - 1995	Variety Clubs International Medical Advisory Council of Variety Children's Lifeline
1987 - Present	Member, Southern Society Pediatric Cardiology
1987- Present	Member, Eastern Society for Pediatric Research
March - 1988-Present	Elected Member, The American Pediatric Society, Inc.
1989 - Present	Member, Association of American Medical Colleges Group on Faculty Practice
November - 1990-91	Member, University Hospital Consortium Clinical Evaluative Sciences Council
1990-91	United Way of America Taskforce on Children at Risk
May, 1991 - Present	Member, The American College of Physician Executives
1991- Present	Member, Association of American Medical Colleges Group on Faculty Practices Data Base Committee.
July 1, 1994 - Present	Chair, Association of American Medical Colleges Group on Faculty Practices Data Base Committee.
1994 - Present	Member, Association of American Medical Colleges Group on Business Affairs Committee. Academic physician activity.
September 1995 - Present	Elected Member, Pediatric Travel Club
November 1995	Member, University Hospital Consortium and Association of American Medical Colleges Research Task Force Steering Committee on Development of the Faculty Group Practice: Moving Toward an Integrated Clinical Enterprise
1996 - Present	Chair, AAMC/MGMA Project Advisory Committee "Managed Care Issues". National survey database on academic physician activity
February 1996 - Present	Member, AAMC Research Focus Group. External Environmental Change - Indicators - Impact on AMC Research Missions.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 10

March 1998 – Present	The Health Management Academy – Interface of Health Industry CEO's and Physician Leaders.
1998 – Present	Member, The Medical Society of the State of New York.
1999 – Present	Fellow, The New York Academy of Medicine.
2001 – Present	Member, HANYS' Statewide Emergency Preparedness Task Force

INTERNATIONAL

Elected Member, The Association of European Pediatric Cardiologists; May, 1991 - Present

INDUSTRY

North American Phillips Corporation. Cardiology Consultant; 1973-1976.

Cardiology Consultant Baird Atomic; 1973-1981.

Johnson & Johnson Consultant in Cardiovascular Catheters (Extracorporeal & Critikon Divisions); 1974-1988.

Consultant to Board of Directors and President, Nu-Med Corporation. 1983 - Present.

**SELECTED UNIVERSITY OF MARYLAND
AT BALTIMORE (UMAB)**

CAMPUS

Member, Chancellor's Task Force on Liability Insurance. University of Maryland School of Medicine; 1982 - 1984.

Member, Chancellor's Task Force on Strategic Planning; 1986-1987.

Member, Child Abuse Steering Committee, University of Maryland at Baltimore Campus; 1986 - 1997.

Member, Advisory Committee, Child Welfare Center, University of Maryland School of Social Work and Community Planning; 1986 - 1991.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 11

Member of Chancellor's Public Image Task Force for UMAB;
June, 1988 - 1990.

Member, President's Task Force on UMAB/UMMS Relations
- Schools/Campus/Hospital. 1989

Member Medical Center Management Group.
Group formed to deal with major policy and directional
decisions for the Medical Center. 1989 - 1997.

Chairman, Year of the Child Committee for the UMAB
Campus. 1989 - 1990.

Member, University of Maryland Cancer Center Task Force
Strategic Planning Committee. 1990 - 1992.

Member, University of Maryland at Baltimore Parking and
Commuter Services Council. 1993.

Member, University of Maryland Life Sciences Achievement
Awards Committee for the University Center. April, 1993 -
1996.

**UNIVERSITY OF MARYLAND
MEDICAL SCHOOL**

Member, University of Maryland Dean's Committee for
Community Affiliations; 1979.

Member, University of Maryland Medical School Admission,
Committee; Interviewer 1979-1982.

Member, Committee for Curriculum Coordination,
Assessment of Sophomore Correlative Medicine; 1980.

Member, Creation of a Cardiovascular Curriculum
Committee,

University of Maryland School of Medicine; 1980.

Member, Search Committee for the Chairman of Medicine,
University of Maryland School of Medicine; 1980.

Member, Board of Directors, Medical Board of the University of Maryland School of Medicine; 1982 - 1997.

Member (one of three - the medical school representative) Graduate Medical Education Policy Committee; 1985 - 1996.

Member, Education Research in Cardiovascular Disease; University of Maryland School of Medicine. September, 1982 - 1994.

Board of Directors, University of Maryland School of Medicine Hypertension Center; 1984 - 1997.

Chairman, Search Committee for Chairman of Anesthesiology of the School of Medicine; 1988.

Member, Search Committee for Dean, University of Maryland School of Medicine; 1989 - 1991.

Member, Search Committee for Chairman of Family Medicine, University of Maryland School of Medicine; 1990.

Chairman, Advisory Committee to the Dean's Office regarding fund raising; 1990 - 1992.

Chairman, Appointment, Promotion and Tenure Review Committee; July 1991 to June 1993.

Chairman, Resources Subcommittee, Institutional Self-Study Task Force, LCME Accreditation; August, 1991 - January, 1993.

Member, Institutional Self-Study Task Force Committee; August, 1991 - January, 1993.

Member, Strategic Planning Committee; April, 1992 - 1993.

Chairman, Clinical Practice Taskforce, Strategic Planning Committee; June, 1992 - 1993.

Member, Search Committee for Chair of the Department of Radiology; June, 1992.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 13

Member, Community Outreach Committee of the Strategic Planning Committee; June, 1992 - 1993.

Chair, Affiliation Committee University of Maryland School of Medicine/Mercy Medical Center, Inc. April, 1993 - 1995.

Member, Faculty Workload Survey Committee; November, 1993 - 1994.

Member, Appointments, Promotion & Tenure Policies & Procedures Revision Committee; January, 1994 - 1995.

Member, Committee to Review Guidelines for Medical School Graduation Awards. April, 1994 - 1995.

UNIVERSITY PHYSICIANS, INC.
(Faculty Practice Corporation)

President, University of Maryland Medical Associates, P.A.; 1981-1983

Member, Board of Directors, University of Maryland Medical Associates, P.A.; 1981 - 1997.

Representative of University Physicians, Inc., to the Trust Management Committee - examined insurance vehicles for malpractice and liability. Formed Self-insurance Trust for hospital and physicians (University of Maryland Medical Services System) 1984 - 1997.

Member, Task Force on Alternative Delivery Systems, Hospital, University Physicians, Inc., Medical School: March, 1986-1987. Evolved into Maryland Medicine, the Campus corporation for managed health care and other entrepreneurial ventures; 1987 - 1993.

Founder and member of University of Maryland Medical Center Marketing Committee. 1988.

Member, Maryland Medicine-University Physicians, Inc., Representative; 1987 -1993.

Member, UPI Executive Committee; 1986 - 1997.

Member, University Physicians, Inc., Board of Trustees Committee, Long Range Planning; December, 1986-1989.

Chairman, Fringe Benefit Committee, University Physicians, Inc.; 1987-1990.

Member, Board of Directors (one of five, includes President of the Campus; Dean, School of Medicine; CEO of hospital; Chairman of the Board of the Hospital), University Health Network. Initially the PHO for the Medical Center, responsible for developing primary care network (inner city and central old); acquisition of practices, etc. Now has become the University of Maryland Clinical Enterprise. 1991 – 1997.

Davidge Group. Directed the establishment of University Physicians, Inc., Medical Service Organization (MSO) for external and internal clients. 1994 – 1997.

President, University Physicians, Inc.; July 1, 1989 -June 30, 1996. (Elected one-year terms).

Member, UPI Clinical Practices Committee (CPC). Formed 1995 to streamline and make all decisions for faculty practice with exception of new taxes. Comprised of Dean, myself and one selected physician; 1995 - 1997.

**UNIVERSITY OF MARYLAND
MEDICAL SYSTEM (Hospital)**

Member, Vice-Chancellor's Medical System Task Force for Ambulatory Health Care; University of Maryland Medical Systems; 1982.

President Elect, Medical Staff of the University of Maryland Hospital; June, 1982 - May, 1983.

President, Medical Staff of the University of Maryland Hospital; May, 1983-1984

Member, Capital Equipment Committee University of Maryland Medical System. 1983-1990.

Member, Joint Conference Committee of the Medical Executive Committee, UMMS (Comprised of Hospital Board members & physicians): 1985 - 1991

Member, Strategic Planning Committee of the University of Maryland Medical System Board of Trustees; 1986-1997.

Member, Development Committee of the University of Maryland Medical System Board of Trustees; 1986-1994.

Member, Marketing Oversight Committee, University of Maryland Medical Center; 1989 - 1997.

Member, Medical Center Master Facilities Project Steering Committee; 1989 - 1997.

Member, Primary Care Task Force, University of Maryland Medical System; April, 1990 - 1994.

Chairman, Critical Care Transport Taskforce; 1990 - 1993.

Member, The Strategic Planning Steering Committee Cancer Care Task Force; 1990 - 1997

Member, Graduate Medical Education Policy Committee; 1990 - 1996. (One of three members that deals with all issues for housestaff, i.e., salary, corporate structure, benefits; supervisory issues, etc.).

Member, Clinical Chiefs Budget Advisory Committee; February, 1991; 1992; 1993; 1994.

Member, Nominating Committee, Medical Staff Offices; FY 1991-92.

Member, Medical Center Planning Group; 1991 - 1997.

Member, Strategic Planning Executive Committee Phase III subcommittee of the Clinical Program & Support Services Assessment Committee and the Financial Sources Assessment Committee; November, 1992 - 1997.

CoChair, UMMC Medicaid/Medicare Taskforce; November, 1995 - 1997.

Member, Medical School representative hospital and/or physician Merger & Acquisitions Committee; December, 1995 - 1997.

Member, Board of Directors, Physician Hospital Organization (PHO); May, 1995-1997.

Member, UMMC Information Technology Oversight Committee; January, 1996 - 1997.

Leader, Continuum of Care Group. UMMC Leadership Retreat of the Phase III Downtown Redevelopment Project. February, 1996.

Member, Advisory Committee, Neurosurgery Program Planning Committee. April, 1996 – 1997.

**MARYLAND MEDICAL CENTER
INSURANCE PROGRAM**

Member, Executive Committee, University of Maryland Medical Services Self-Insurance Trust. 1984 – 1997.

Head of Claims Committee, University of Maryland Medical Services Self-Insurance Trust. 1984 – 1997.

Head of excess liability placement, University of Maryland Self-Insurance Trust. 1987 – 1997.

Chairman, University of Maryland Medical Services System Self-Insurance Trust; September, 1987 – 1997.

Chairman, Terrapin Insurance Company; captive insurance company formed, November, 1990.

**COLUMBIA UNIVERSITY
NEW YORK, NEW YORK
(Health Sciences division)**

02/23/98 - present
06/01/98 – 06/30/99

Voting member, Faculty Council of the Faculty of Medicine.
Lecturer. in Pediatrics. Columbia University of the City of New York.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 17

09/98	Dean's Administrative Affairs Committee
09/22/98 - Present	Standing Committee on the Health Sciences of the Columbia University Trustees.

JOAN AND SANFORD WEILL
MEDICAL COLLEGE & GRADUATE SCHOOL OF
MEDICAL SCIENCES CORNELL UNIVERSITY
New York, New York

11/98 -	Board of Directors, Griffis Faculty Club
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DEVELOPMENTS

Berman Angiographic Catheter. Flow-guided balloon angiographic catheter used extensively in pediatrics and radiology.

Flow-guided hydrogen catheter for shunt detection.

ACADEMIC REVIEWS

Member, Committee on Medical Self-Knowledge Assessment Program; American College of Physicians, National Board of Medical Examiners. 1979-1980.

Consultant to the Dean, University of Texas at San Antonio; a review and assessment of the Department of Pediatrics. 1981.

Ad hoc Member, Epidemiological Study Section; National Institutes of Health; Bethesda, Maryland; 1981.

National Heart, Lung and Blood Institute Special Review Committee on Pediatric AIDS (Cardio-Pulmonary Effects); December, 1988.

BOOKS AND CHAPTERS

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1. Fyler DC, Parisi L and **Berman MA**: The regionalization of infant cardiac care in New England. Cardiovasc Clinics 4:340, 1972.
2. Talner NS, **Berman MA**, Hellenbrand WE and Fineman RM: Mitral atresia. In: Birth Defects Atlas and Compendium D. Bergsman, ed., The Williams and Wilkens Company, Baltimore, MD, 1976.
3. Talner NS, **Berman MA**, Hellenbrand WE: Mitral valve insufficiency. Birth Defects Atlas and Compendium. The Williams and Wilkens Company, Baltimore, MD, 1976.
4. Hellenbrand WE, Talner NS and **Berman MA**: Mitral valve stenosis; tricuspid valve stenosis. In Birth Defects Atlas and Compendium. The Williams and Wilkens Company, Baltimore, MD, 1976.
5. **Berman MA**, Hellenbrand WE and Talner NS: Tricuspid valve insufficiency. In Birth Defects Atlas and Compendium. D. Bergsman, ed., The Williams and Wilkens Company, Baltimore, MD , 1976, Birth Defects Encyclopedia, 1989.
6. **Berman MA**, Brenner JI: Management of coarctation of the aorta with VSD. In Current Controversies and Techniques in Congenital Heart Surgery. Appleton-Davies: Pasadena, California; 1982.
7. **Berman MA**: Management of transposition of the great arteries in infancy. In Current Controversies and Techniques in Congenital Heart Disease. Appleton-Davies: Pasadena, California; 1982.
8. **Berman MA**, Brenner JI, Ringel RE: The patent ductus arteriosus: In Current Therapy in Cardiovascular Disease, 1984-1985; Fortuin NJ ed. Decker, Phila., 1984.
9. Brenner JI, Ringel RE, **Berman MA**: Cardiologic perspectives of chest pain in childhood: a referral problem? To whom? Pediatric Clinic North America, Dec., 1984, 1241-58.
10. **Berman, MA**: Chapter 8: Transposition of the Great Arteries: A Discussion. In Congenital Heart Surgery, Current Techniques and Controversies. Appelton Davies, Inc., Pasadena, California. 1984.
11. **Berman MA**, Ringel RE, Hellenbrand WE, Brenner JI: Tricuspid Insufficiency in Birth Defects, Compendium, 3rd ed., 1985.
12. **Berman MA**, Ringel RE, Hellenbrand WE, Brenner JI: Tricuspid stenosis in Birth Defects Compendium, 3rd ed., 1985.

13. Brenner JI, **Berman MA**, Ringel RE: The Ductus Arteriosus. In Current Therapy in Cardiovascular Disease:II. Fortuin NJ ed. B.C. Decker, Inc., 1987.
14. Brenner JI, Ringel RE, **Berman MA**: Tricuspid valve stenosis in Birth Defects Compendium, 4th edition, 1988.

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1. **Berman MA**, Spotnitz HM and Epstein SE: Pathophysiology and experimental treatment of acute pulmonary embolism. Clinical Research 17:577, 1969.
2. Freed T, Buja M, **Berman MA** and Roberts W: Pulmonary hemorrhage: radiographic and pathological correlation in patients with congenital cardiac disease dying following cardiac surgery. Radiology 94:555, 1970.
3. **Berman MA**, Buja M and Freed TA: Frothy pink endobronchial secretions following total correction of Tetralogy of Fallot. Chest 57:393, 1970.
4. Spotnitz HM, **Berman MA** and Epstein SE: Pathophysiology and experimental treatment of acute pulmonary embolism. Am Heart J 82:511, 1971.
5. Buja, M. Freed TA, **Berman MA**, Morrow AG and Roberts WC: Pulmonary alveolar hemorrhage: a common finding in patients with severe cardiac disease. Am J Cardiol 27:168, 1971.
6. Spotnitz HM, **Berman MA**, Reis RL and Epstein SE: The effects of synchronized counterpulsation of the pulmonary artery on right ventricular hemodynamics. J Thorac Cardiovasc Surg 61:167, 1971.
7. **Berman MA**, Fishbone G and Stansel HC, Jr.: TAPVR with obstruction at the foremen ovale: successful palliation by open atrial septectomy. Am J Surg 124:679, 1972.
8. **Berman MA**, deLeuchtenberg N. Fishbone LG and Stansel HC, Jr: Complications of diagnostic and therapeutic cardiac catheterization. Conn Med 36:519, 1972.
9. **Berman MA**: Techniques of catheterization of the pulmonary veins and pulmonary venous atrium following Mustard's operation. Am Heart J 85:94, 1973.

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10. **Berman MA**, Talner NS and Stansel HC, Jr.: Experience with Mustard's operation in infants less than one year of age: emphasis on late complications including patch stenosis. Surgery 73:133, 1973.
11. **Berman MA**, Taylor JFN, Talner NS and Stansel HC, Jr.: Successful repair of pericardial patch stenosis after Mustard's procedure: diagnostic and therapeutic considerations in two patients. J Thoracic Cardiovasc Surg 65:276, 1973.
12. Brenner JI, **Berman MA**, Talner NS and Stansel HC, Jr.: Double aortic arch system with obstruction to left ventricular outflow. Am J Cardiol 34:854, 1974.
13. Rieker RP, Stansel HC, Jr., and **Berman MA**: Postoperative studies in patients with Tetralogy of Fallot. Ann Thorac Surg 19:17, 1975.
14. Talner NS and **Berman MA**: Postnatal development of obstruction in coarctation of the aorta: role of the ductus arteriosus. Pediatrics 56:562-9, 1975.
15. Brenner JI and **Berman MA**: Massive cardiomegaly in a neonate. Chest 1975,68:573-4.
16. Brenner JI and **Berman MA**: Abnormal lung pattern in a new born. Chest 1975, 68:805.
17. Poirier RA, **Berman MA** and Stansel HC, Jr.: Current status of the surgical treatment of truncus arteriosus. J Thorac Cardiovas Surg 69:169, 1975.
18. **Berman MA**, Baker K and Gillis CN: Norepinephrine (NE) uptake in rabbit lung: demonstration of age dependence. Ped Res 9:275, 1975.
19. Freedman GS, Dwyer A, **Berman MA** and Wolberg J: Time variation in cardiac flow-volume: an index of shunting and regurgitation. J Nucl Med 14:396, 1975.
20. Nudel DB, **Berman MA**, Stansel HC, Jr., and Talner NS: Prosthetic valve replacement in children. Arch Surgery 110:1397-1400, 1975.
21. Nudel DB and **Berman MA**: Respiratory distress with cardiomegaly in a neonate. Chest 70:285-286, 1976.
22. Nudel DB, **Berman MA** and Talner NS: Effects of acutely increasing systemic vascular resistance on arterial oxygen tension in Tetralogy of Fallot. Pediatrics 58:248-241, 1976.
23. Glanz S, Tittner SJ, **Berman MA**, Dolan TF, Jr. and Talner NS: Regression of coronary artery aneurysms in infantile polyarteritis nodosa. N Eng J Med 294:939-41, 1976.
24. Matisoff DN, Hellenbrand WE, **Berman MA** and Talner NS: A superior mediastinal mass in a neonate. Chest 71:205, 1976.

25. Barash PG, **Berman MA**, Stansel HC, Jr., Talner NS and Cronau LH: Markedly improved pulmonary function following open heart surgery in infancy utilizing surface cooling, profound hypothermia and circulatory arrest. Am J Surg 131:499-503, 1976.
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27. Glanz S, Hellenbrand WE, **Berman MA** and Talner NS: Echocardiographic assessment of severity of aortic stenosis in children and adolescents. Am J Cardiology Nov, 4:38(5) 620-5, 1976.
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31. **Berman MA**, Barash PG, Hellenbrand WE, Stansel HC, Jr. and Talner NS: Late development of severe pulmonary venous obstruction (PVO) following the Mustard operation. Circ 56:(3part-2suppl)1191-4, 1978.
32. Hellenbrand WE, Kelley MJ, Talner NS, Stansel HC Jr. and **Berman MA**: Cervical aortic arch with retroesophageal aortic obstruction: report of a case with successful surgical intervention. Ann Thorac Surg 26:86-92, 1978.
33. Matisoff DN, Kelley MJ, Hellenbrand WE, **Berman MA**, Talner NS: Transposition of the great arteries and atresia of the mitral and pulmonary valves: association with a normal anatomic left ventricle. Chest 665-6, May, 1978.
34. Brenner JI, Baker KR, and **Berman MA**: Prediction of left ventricular pressure in infants less than one year of age with aortic stenosis. BR Heart J 44:406-410, 1980.
35. Brenner JI and **Berman MA**: Radionuclide determination of LV function in infants and children with cardiomyopathy. Pediatric Cardiology 2:115-121, 1982.
36. Brenner JI, Ringel RE, Rennels MB, Huang SW, Wang SP, Grayston TI and **Berman MA**: Serologic evidence for Chlamydia trachomatis myocarditis. Pediatrics, 70:54-6, 1982.

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37. Ringel RE, Moulton AL, Brenner JI and **Berman MA**: Systemic Atrioventricular valve replacement in infants. Pediatric Cardiology, 2:329-331, 1982.
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41. Brenner JI, **Berman MA**. Chest pain in adolescents. J Adol Health Care 3:271-6, 1983.
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44. Ringel RE, Givner LB, Brenner JI, Huang SW, Sunn CC, Wang SP, Grayston JR and **Berman MA**: Myocarditis as a Complication of Infantile Chlamydia Trachomatis Pneumonitis; Clinical Pediatrics 22:631-3, 1983.
45. Ali SM, Moulton AL, Burns JE, Brenner JI, **Berman MA**: Status of systemic artery to pulmonary artery shunts in complex congenital heart disease. Pakistan Heart Journal 15:119-24, 1983.
46. Ringel RE, Haney PJ, Brenner JI, Mancuso TJ, Roberts GS, Moulton AL and **Berman MA**: Periosteal Changes secondary to prostaglandin administration. J of Peds 103:251-253, 1983.
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48. Ringel RE, Kennedy H, Brenner JI, Roberts GS, **Berman MA**: Pre-and Postoperative assessment of rhythm disturbance by Holter ECG. J of Electrocardiology, 17:1-6, 1984.
49. Brenner JI, Bharati S, Lev M and **Berman MA**: Rare type of intrapulmonary drainage of one lung by the other with total anomalous pulmonary venous return. J Amer College of Card 2:1174-1177, 1983.

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Curriculum Vitae

Page 23

50. Ringel RE, Hamlyn J, Schaeffer J, Hamilton BP, Kowarski AA, Blaustein MP and **Berman MA**: Red cell Na-K cotransport activity and Na concentrations in normotensive and hypertensive black males. Hypertension 6:724-730, 1984.
51. Brenner JI, Moulton AL, Ringel RE, Baker K and **Berman MA**: Pulmonary artery banding: 2D echocardiographic and angiographic follow-up. J Cardiovascular Ultrasonography, 3:229-234, 1984.
52. Moulton AL, Brenner JI, Roberts GL, Tavares S, Ali S, Nordenberg A, Burns J, Ringel R, **Berman MA**, McLaughlin J: Subclavian flap repair of coarctation of the aorta in neonates. J of Thoracic and Cardiovascular Surgery 87:220-235, 1984.
53. Brenner JI, Baker K, Ringel RE and **Berman MA**: Echocardiographic evidence of left ventricular bands in a pediatric population. J of the American College of Cardiology, 3:1515-20, 1984.
54. Moulton AL, Brenner JI, Ringel RE, Sohaila A, **Berman MA**, Burns J: Systemic-Pulmonary shunts in neonates: comparison of classical and "modified" Blalock-Taussig anastomosis. Chest, 1984.
55. Brenner JI, Warren JW, Shayne RS, **Berman MA** and McLaughlin JS. Anaerobic Pyopneumopericardium. Am J Dis child 1984; 138:781-792.
56. Brenner, JI, Ringel RE, **Berman MA**: Chest pain in children: Identifying a source. Maryland State Medical Journal, 1985, 34d:481-87, 1985.
57. Moulton AL, Brenner JI, Ringel RE, Nordenberg A, **Berman MA**, Ali S, Burnes JE: Classical Versus modified Blalock-Taussig shunts in neonates and infants. Circulation 1985, 72,II0:35-44.
58. Ringel RE, Hamlyn JM, Pinkas, Chalew SA, Hamilton BP and **Berman MA**: Red blood cell (Na+K)ATPase in males with newly diagnosed and previously treated essential hypertension. 1987, Hypertension, 93:437-443.
59. Bonita Stanton, **Michael Berman**: Professional Advancement of Social Scientists within Schools of Medicine. Guest editorial, Medical Care Review 50:3 (Fall 1993).
60. Carraccio C, **Berman MA**: Intensive Care: Impact on Resident Education. Letter to the Editor Academic Medicine, AAMC May, 1994.
61. Carraccio C, **Berman MA**: Intensive care: Impact on resident education. Clinical Pediatrics, October, 1994, Vol.33 #10.

62. **Berman MA**, "Innovation and the Individual Physician in Integrated Health Care Delivery Systems." Association of American Medical Colleges publication Academic Clinical Practice. Summer edition; vol. 8, #2, July, 1995.
63. Terhaar MF, O'Keefe S, **Berman MA**: "A new advanced practice role focused on outcomes management." Journal of Perinatal and Neonatal Nursing. 9(3) 10-21.
64. Terhaar MF, Gewolb IH, Chmielewski P, **Berman MA**: "A collaborative practice model for neonatal intensive care. (Under review).

SELECTED ABSTRACTS, PRESENTATIONS AND EXHIBITS

National

1. **Berman MA**, Spotnitz HM, Epstein SE and Reis RL: The hemo-dynamic effects of pulmonary artery counterpulsation in normal and pulmonary hypertensive dogs. Fed Proc 28:829, 1969.
2. **Berman MA**, Buja ML, Freed T, and Roberts WC: Pulmonary alveolar hemorrhage: a common occurrence in cardiac patients. Circ 40:III:52, 1969. Presented at the American Heart Association meetings, 1969.
3. **Berman MA**, Spotnitz HM, Epstein SE: Pathophysiology and experimental treatment of acute pulmonary embolism. Circ 40:III, 192, 1969. Presented at the American Federation for Clinical Research meetings, Washington, D.C., 1969.
4. **Berman MA**, Talner NS and Stansel HC, Jr.: Residual atrial level shunts following Mustard's procedure for transposition of the great arteries (TGA). Circ 46:II:97, 1972. Presented at the 45th Annual Scientific Sessions of the American Heart Association, November, 1972.
5. **Berman MA**, Halloran KH, deLeuchtenberg N, and Stansel HC, Jr.: Follow-up studies in children after aortic valvotomy. Circ 46:II:III, 1972. Presented at the 45th Scientific Sessions of the American Heart Association, November, 1972.
6. **Berman MA** and Fishbone C: Femoral arteriography after percutaneous left heart catheterization in infants and children. Circ 46:II:131, 1972.
7. **Berman MA**, Talner NS and Stansel HC, Jr.: Total anomalous pulmonary venous return (TAPVR) with obstruction at the atrial septum (palliation with balloon septostomy and open atrial septectomy). Am J Cardiol 31:121, 1973. Presented at the 22nd Annual Scientific Sessions of the American College of Cardiology, February, 1972.

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Page 25

8. **Berman MA**, Rieker RP, Robbins DI, Talner NS and Stansel, HC, Jr: Persistent hemodynamic abnormalities following intracardiac repair of Tetralogy of Fallot. Am J Cardiol 31:154, 1973. Presented at the 22nd Scientific Sessions of the American College of Cardiology, February, 1973.
9. **Berman MA** and Talner NS: Postnatal development of discrete coarctation of the aorta. Am J Cardiol 31:161, 1973. Presented at the 22nd Scientific Sessions of the American College of Cardiology, February, 1973.
10. **Berman MA**, Hellenbrand WE and Talner NS: D-transposition of the great arteries (TGA) and hypoplasia of the right ventricle. Circ 48:IV:3, 1973. Presented at the 46th Scientific Sessions of the American Heart Association, November, 1973.
11. **Berman MA**, Rieker RP, Robbins DL, Stansel HC, Jr. and Talner NS: Aortic insufficiency and Tetralogy of Fallot. Presented at the 46th Scientific Sessions of the American Heart Association, November, 1973.
12. **Berman MA**, Sheps D, Robbins DL, Simon A and Rieker RP: Ventricular septal motion on angiography in patients with atrial septal defect. Circ 50:III:4, 1974. Presented at the 47th Scientific Sessions of the American Heart Association, November, 1973.
13. **Berman MA**, Robbins DL, Rieker RP and Stansel HC, Jr.: Angiographic evaluation of Tetralogy of Fallot following intracardiac repair. Presented at the Radiologic Society of North America, November, 1973.
14. **Berman MA**, Nudel DB, Parisi L and Talner NS: Coarctation in New England (Regional Infant Cardiac Program experience). Circ 50:III:4, 1974. Presented at the 47th Scientific Sessions of the American Heart Association, November, 1974.
15. **Berman MA**, Baker KR and Gillis CN: Norepinephrine (NE) uptake in rabbit lung: demonstration of age dependence. Ped Res 9:275, 1975.
16. **Berman MA**: A flow-guided angiographic catheter. Exhibit, American Heart Association, Dallas, Texas, 1975.
17. **Berman MA**, Stansel HC, Jr., Nudel DB, and Talner NS: Prosthetic valve replacement in children. Presented at the International Cardiovascular Society, Boston, Massachusetts, 1975.
18. Barash PG, **Berman MA**, Lesovich RN, Talner NS, Katz J and Stansel, HC, Jr.: Early extubation following pediatric cardiac surgery: an analysis of 198 consecutive admissions. Crit Care Med 4:109, 1976. Presented at the 5th Scientific Meeting of the Society for Critical Care Medicine, May 1976.

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19. Glanz, S, **Berman MA**, Glanz S, Hellenbrand WE, and Talner NS: Echocardiographic determination of ventricular dimensions: use in aortic stenosis. Ped Res 10:312, 1976. Presented at the annual meeting of the Society for Pediatric Research, April, 1976.
20. **Berman MA**, Baker K and Gillis CN: Metabolism of prostaglandin A₁ and E₁ (PGA₁ and PGE₁) by the perfused rabbit lung: demonstration of age dependence. Ped Res 10:328, 1976. Presented at the Society for Pediatric Research, April, 1976.
21. **Berman MA**, Baker K and Gillis CN: Fate of biogenic amines in rabbit lung: demonstration of age dependence. Ped Res 10:457, 1976. Presented at the Society for Pediatric Research, April, 1976.
22. Stansel HC, Jr., Tabry IF, Poirier RA and **Berman MA**: One hundred consecutive coarctation resections followed from one to thirteen years. Presented at the Surgical Section of the American Academy of Pediatrics, October, 1976.
23. **Berman MA**, Barash PG, Hellenbrand WE, Stansel C, Jr. and Talner NS: Late development of severe pulmonary obstruction (PVO) following the Mustard operation. Presented at the 49th Scientific Sessions of the American Heart Association, November, 1976.
24. Brenner JI, Baker KR, Turney SZ and **Berman MA**: Prediction of left ventricular pressure in infants less than one year of age with aortic stenosis. Presented at the Southern Society for Pediatric Research, January, 1978.
25. **Berman MA**: Technique for manipulation of balloon catheters. Scientific exhibit presented at the American College of Cardiology meetings, March, 1978.
26. **Berman MA**: Nuclear medicine and ultrasound applications in pediatric cardiology. Presented at the 8th Annual Meeting of the Society for Nuclear Medicine, April, 1978.
27. Brenner JI, Roberts GS and **Berman MA**: Holter monitoring in children. Scientific exhibit presented at the Annual Medical-Chirurgical Faculty of the State of Maryland, May 1979.
28. **Berman MA**, Roberts GS and Brenner JI: Advances in diagnosis and management: pediatric cardiology, Presented at the Maryland Medical and Chirurgical Faculty meeting, May, 1979.
29. Brenner JI, Moschler T and **Berman MA**: Assessment of left ventricular performance in infants and children with quantitative radionuclide angiography: studies in patients with cardiomyopathies. Presented at the Southeastern Pediatric Cardiology Society, September, 1979.

30. **Berman MA:** Approach to diagnosis and management of infants with critical obstruction to pulmonary blood flow. Presented at the 182 Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland, Baltimore, Maryland, April 23-25, 1980.
31. Moulton AI, Roberts GS, Brenner JI, **Berman MA** and Ringel RE: Coarctation of the aorta. Presented at the 183rd Annual Meeting of the Medical and Chirurgical Society of the State of Maryland, Baltimore, Maryland, May, 1981.
32. Brenner JI, Burns JE, Ringel RE, Moulton AI and **Berman MA:** Pulmonary artery banding: surgical experience and echo evaluation. Presented at the Southeastern Pediatric Cardiology Society, Williamsburg, Virginia, September, 1981.
33. **Berman MA**, Ringel RE, Brenner JI, Roberts GS and Moulton AI: Post-operative rhythm assessment a prospective study. Presented at the Southeastern Pediatric Cardiology Society, Williamsburg, Virginia, September, 1981.
34. Ringel RE, Brenner JI, **Berman MA**, Roberts GS and Moulton AI: Predictive value of 24 hr. preoperative rhythm assessment in cardiac surgical patients. Presented at the American Academy of Pediatrics Fall Session, New Orleans, LA: November, 1981.
35. Ferencz C, **Berman MA**, Brenner JI, Ringel RE, Blaustein M, and Dischinger P: Hypertension: Clinical and Experimental Screening. Presented at the 184th Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland, Baltimore, Maryland: April 28-30, 1982.
36. Brenner JI, **Berman MA**, and Ferencz C: Role of continuous BP monitoring in detecting adolescent hypertension. Presented at the mid-Atlantic Pediatric Cardiology Society, Annapolis, Maryland, June, 1982.
37. Moulton AL, Brenner JI, Green D, Burns JE, Ringel RE, **Berman MA**, McLaughlin JS: Pulmonary artery banding in infancy for complex intracardiac defects. Presented at the American College of Cardiology, 31st Annual Scientific Session, Atlanta, Georgia, April, 1982 and also at the USSR Cardiothoracic Symposium; August, 1982.
38. Brenner JI, Dischinger P, Bross D, Ringel RE, **Berman MA**, and Ferencz C: Ambulatory BP monitoring in adolescents: techniques and initial experience in 50 subjects. Presented at Southeastern Pediatric Cardiology Society, Sea Island, Georgia: September, 1982.
39. Brenner JI, Ringel RE, Burns JE, Roberts GS, Moulton AL and **Berman MA:** Incidence and long-term effect of PGE₁ induced periostitis. Presented at Southeastern Pediatric Cardiology Society, Sea Island, Georgia: September, 1982.
40. **Berman MA** and Brenner, JI: Manipulation of balloon catheters. Presented at Southeastern Pediatric Cardiology Society, Sea Island, Georgia: September, 1982.

MICHAEL A. BERMAN, M.D.
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41. Brenner JI, Dischinger P, Bross D, Ringel RE, **Berman MA**, and Ferencz C: Twenty-four ambulatory monitoring: results of 77 studies. Presented at the annual Academy of Pediatrics, Fall Session, New York: October, 1982.
42. Ringel RE, Hamlyn J, Schaeffer J, Hamilton B, Kowarski A, Blaustein M and **Berman MA**: Red blood cell sodium-potassium cotransport and sodium concentrations transport in black males. Presented at the Society for Pediatric Research, Washington, DC, May, 1983.
43. Ali S, Moulton AL, Tavares S, Lincoln S, Burns JE, Brenner JI and **Berman MA**: Subclavian flap repair of coarctation of the aorta in neonates and infants. Submitted for presentation at the Joint Annual Meeting, International Society for Cardiovascular Surgery/Society for Vascular Surgery: June 15-18, 1983; San Francisco, California.
44. Moulton AL, Brenner JI, Burns JE and **Berman MA**: Management of mitral stenosis and hypoplastic left ventricle following successful palliation as a neonate. Presented at the Society of Thoracic Surgery, San Francisco, California, January 1983.
45. Ringel RE, Brenner JI, Moulton AL and **Berman MA**: Subclavian flap repair for coarctation of the aorta in infancy. Presented at the Mid-Atlantic Pediatric Cardiology Association: Baltimore, Maryland, 1983.
46. Brenner JI, Ringel RE, **Berman MA**: Long term prostaglandin E₁ therapy in congenital heart defects (letter to ed.), 1984, Journal American College of Cardiology.
47. Brenner JI, Dischinger P, Ferencz C, Wilson PD, **Berman MA**: Analysis of 24 ambulatory BP in adolescents: effect of age and family history. Presented at mid-Atlantic Pediatric Cardiology Society, Charlottesville, Virginia, June, 1984.
48. Moulton AL, Brenner JI, Ringel RE, Ali SM, and **Berman MA**: "CLASSICAL" versus "MODIFIED" Blalock-Taussing Shunts in Neonates. Circ 70:11:248, 1984.
49. Brenner JI, Ringel RE, Ferencz C, Dischinger P, **Berman MA**: Ambulatory BP in Adolescents. Presented at the 186th annual meeting of the Medical and Chirurgical Society of the State of Maryland, Baltimore, MD; April, 1984.
50. McKenzie C, Terhaar M, **Berman MA**: Family Focused Care Reform: Ask the Children and Families what they need. Presented at the Third International Family Nursing Conference, Montreal, Quebec; May 1994.
51. Terhaar M, Campbell K, Chmielewski P, **Berman MA**: A Collaborative Practice Model to Support Outcomes in the NICU. Presented at the Annual Conference, Association for the Care of Children in Hospitals, Toronto, Ontario; May, 1994.

52. Terhaar M, Campbell K, **Berman MA**: A Collaborative Practice Model for Care of the Neonate with Surgical Diagnoses presented at the Annual Conference, Association for the Care of Children in Hospitals, Toronto, Ontario; May 1994.
53. Terhaar M, McKenzie C, Chmielewski P, **Berman MA**: Data Driven Decision Making to Support Outcomes Management in Pediatric Populations. Presented at the Annual Conference, Association for the Care of Children in Hospitals, Toronto, Ontario; May 1994.

International

1. Brenner JI, Baker KR, Moulton AL, Green DC and **Berman MA**: Real-time echocardiographic evaluation of the atrial septum in children with right ventricular volume overload. Presented at the World Congress of Pediatric Cardiology, London, England, June, 1980.
2. **Berman MA**, Brenner JI, Roberts, GS, Moulton AL and Kennedy H: Application 24-hour ambulatory ECG monitoring in the pediatric age group. Presented at the World Congress of Pediatric Cardiology, London, England, June, 1980.
3. **Berman MA**, and Brenner JI: Manipulation of balloon catheters. Presented as a scientific exhibit at the World Congress of Pediatric Cardiology, London, England, June, 1980.
4. Brenner JI, Moschler T, Moulton AL and **Berman MA**: Evaluation of left ventricular performance in infants and children using radionuclide angiography. Scientific exhibit presented at the World Congress of Pediatric Cardiology, London, England, June, 1980.
5. Meijboom EJ, Ebels TJ, Wyse RKH, Deanfield JE, Anderson RH, Brenner JI, **Berman MA**: Post-operative left atrio-ventricular valve regurgitation in atrio-ventricular septal defect. Association of European Pediatric Cardiologists, XXIII Annual General Meeting, Hamburg, FRG, April 28-May 1, 1987.

Invited National and International (Named Lectures and Symposium)

1. **Berman MA**: Recent developments in cardiac catheterization. Presented at the Helen B. Taussig International Symposium on Pediatric Cardiology, May, 1976.
2. **Berman MA**: Transposition of the great arteries. Presented at the Long Island Jewish Hospital Symposium on Pediatric Cardiology, November, 1977.
3. **Berman MA**: Cardiac catheterization. Presented at the Long Island Jewish Hospital Symposium on Pediatric Cardiology, November, 1977.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 30

4. **Berman MA:** Hemodynamic results following operation. Presented at Pediatric Cardiology, Baltimore, Maryland: January, 1978. (Program coordinator).
5. **Berman MA:** (1) Transposition of the great arteries; (2) Cardiac catheterization: Current Status; (3) Tetralogy of Fallot and (4) Coarctation of the Aorta. Presented at the Astra Pharmaceutical Symposium of Surgically Remedial Heart Disease, Manila, Philippines, 1980.
6. **Berman MA:** Current status of cardiac catheterization in infants and children. Presented at the 5th Annual Family Medicine Review Course, Baltimore, Maryland, September, 1979.
7. Moulton AL (Coordinator), **Berman MA** (co-coordinator), McLaughlin JS, Green DC and Brenner JI: Current Controversies and Techniques in Congenital Heart Surgery. Sponsored by the University of Maryland School of Medicine, Department of Continuing Education and the Division of Cardiothoracic Surgery and Pediatric Cardiology; May 7-8, 1981, Baltimore, Maryland.
8. **Berman MA** (Program Director), Brenner JI, Weinstein SL, Hohn A and Elliott LS: Pediatric Cardiology Workshop; Viernheim, Germany. US Army 7th Medical Command; January, 1982.
9. **Berman MA:** Patent ductus arteriosus in the newborn. Presented at the George S. Husson Memorial Lecture, Syracuse, New York; April, 1982.
10. **Berman MA:** The Berman Angiographic Catheter. Presented at the 16th Annual Conference of the National Society for Cardiopulmonary Technology, Inc. Washington, DC, May, 1983.
11. **Berman MA:** How to Evaluate Chest Pain in Children and Adolescents. Presented (panel member) American College of Cardiology, Anaheim, California, March, 1985.
12. **Berman MA:** Presented (1) Cardiomyopathy; (2) Axial Cineangiography in Congenital Heart Disease; (3) Sudden Infant Death Syndrome (SIDS). People to People Pediatric Cardiology Delegation of the People's Republic of China, September, 1985.
13. **Berman MA:** Surgical Alternatives of the Newborn with Congenital Left-sided Cardiac Obstruction. Third Annual Perinatal Symposium and Inaugural Meeting of the Maryland Perinatal Association, Baltimore, Maryland. June 1986.
14. **Berman MA:** Financing the Operation of a Pediatric Department. Presented at "The Pediatrician of the '90's" session sponsored by Wyeth Laboratories, October, 1986, Cancun, Mexico for pediatric department chairman.

15. Participating member CME Conference: Fetal Echocardiography, Baltimore, MD, November 3, 1986.
16. Chairman, Fetal Cardiology Course sponsored by University of Maryland, pediatric cardiology, in conjunction with the American Heart Scientific Sessions, Anaheim, California, November 14-15, 1987.
17. Co-Chairman, Fetal Cardiology Course, Division of Pediatric Cardiology, Department of Pediatrics, University of Maryland, in conjunction with the American Heart 61st scientific session in Washington, D.C. November 12-13, 1988.
18. Chairman, (one of two), Session I, Fetal Cardiology Symposium. Bangkok, Thailand, November 24, 1989. Sponsored by the Division of Pediatric Cardiology, University of Maryland School of Medicine.
19. **Berman, MA:** "Pediatric Cardiology - Changes in Therapy and Outcome" Presented at the American Academy of Pediatrics District III meeting, Baltimore, Maryland, March, 1990.
20. Group Discussion Leader, Association of American Medical Colleges Minority Faculty Career Development Seminar, Washington, DC, October 21, 1991.
21. Association of American Medical Colleges Annual Meeting. Panelist, Group on Faculty Practice Business Affairs, Database Committee. "Preserving the Viability of the Academic Medical Center - Chairman/Faculty Practice Plan View", Washington DC, November 12, 1991.
22. State of Maryland Infants & Toddlers Program moderator. Symposium on the Prevention of Developmental Disabilities in Infants and Toddlers. Johns Hopkins University, Baltimore, Maryland. June 4-5, 1992; Moderator, April 18, 1993.
23. Participant. American Academy of Pediatrics planning meeting for the 1993 Annual Meeting, Washington, DC, November 8, 1992.
24. Matjasko, J; **Berman, MA:** Faculty Moderator. Association of American Medical Colleges Senior Women in Professional Development seminar, Washington, DC. 1993, 1994, 1995, 1996, 1997.
25. **Berman, MA:** "It Ain't the Money, It's the Money!". Presented at the 1993 New Chairmen's Meeting, Association of Medical School Pediatric Department Chairmen, Inc., The Buttes, Tempe Arizona, March 4, 1993.
26. **Berman, MA:** "Child Health Care in the 1990's". Presented at the Maryland Chapter, American Heart Association, Baltimore, MD. May 12, 1993.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 32

27. **Berman, MA:** Health Care Reform presentation and panel discussion. Wheaton College, Norton, Massachusetts. October, 1993.
28. Group Discussion Leader, Association of American Medical Colleges Minority Faculty Career Development Seminar, Washington, DC, October 2-5, 1993, 1994, 1995.
29. Matjasko J, **Berman, MA:** "Faculty Practice Plan". Presented at the American Association of Medical Colleges Senior Women in Professional Development Seminar, March, 1994, Washington, DC.
30. **Berman, MA:** "Corporatization of Medicine: Concerns for Children's Care". Invited speaker at the G. Bowers Mansdorfer Annual Lecture, Mercy Medical Center, Baltimore, Md., May, 1994. Speakers are selected who reflect Dr. Mansdorfer's qualities of a learned, caring, and committed pediatrician.
31. Terhaar MF, **Berman MA:** "Data Driven Decision Making to Support Outcomes Management in Pediatric Populations". Annual Conference, Association for the Care of Children in Hospitals, Toronto, Ontario. 1994.
32. Matjasko, J; **Berman, MA:** "Corporatization of Healthcare". Presented at the Association of American Medical Colleges Senior Women in Professional Development. March, 1995, Washington, DC.
33. Terhaar MF, **Berman MA:** "Outcomes Management in Children's Health". Presented at the NACHRI Quality Conference, Orlando, FL. 1995
34. Terhaar MF, **Berman MA:** "Developmentally Appropriate Pain Management for Children". Presented at ACCH, Baltimore, MD. 1995.
35. Fox, R, Terhaar, MF, **Berman MA:** "Specialty practice for ELBW infants". Perinatal & Neonatal Section, American Academy of Pediatrics, Scottsdale, Arizona. 1995.
36. Terhaar MF, **Berman MA:** "The Problem on Prematurity and Complicated Birth". Presented at the Baltimore Commission, Baltimore, MD. 1995.
37. Terhaar MF, **Berman MA:** "Establishing a Program for Developmentally Appropriate Pain Management for Children". Presented at the NAMM Update, Baltimore, MD. 1995.
38. Terhaar MF, **Berman MA:** "Reinventing NICU Care: a case study. Concerns in a Changing Health Care Environment". UVA Pediatric Nursing Conference, Charlottesville, VA. 1995.

39. **Berman, MA:** "Managed Care: Looking Outward; Negotiating with Providers: Planning and Contracting". Invited speaker, Association of Medical School Pediatric Department Chairmen, Inc., 96th Annual Meeting, Fort Myers, Florida, March 7-11, 1996.
40. **Berman, MA:** "Managed Care Issues: Methods to split dollar; Contract as a Pediatric group or as part of a system; Systems for monitoring a care and performance". Invited workshop discussion at Association of Medical School Pediatric Department Chairmen, Inc., 96th Annual Meeting, Fort Myers, Florida, March 7-11, 1996.
41. **Berman, MA:** "Overview of Changes in the Department of Pediatrics". Presented at the 198th Annual Meeting of the Medical and Chirurgical Faculty of Maryland, George M. Boyer, M.D. and M. McKendree Boyer, M.D. Memorial Lecture. April 26, 1996, Baltimore, MD.
42. **Berman M:** "Collecting Data on Clinical Faculty Activity". Presented at the AAMC Deans Roundtable, Clinical Faculty Practice, Organization, and Productivity. McLean Virginia, June 12, 1996.
43. **Berman M, Matjasko, J:** "Understanding the Job of Department Chair". Presented at the Association of American Medical Colleges Professional Development Seminar for Senior Women in Medicine. June 29-July 2, 1996. Washington, DC.
44. **Berman M, Carpenter B:** "Integration of University and Community Physician Practices Within a Multi-hospital Delivery System: A Tale of Three Markets." Selected presentation at the AAMC Group on Faculty Practice meetings in Seattle, Washington. July, 1996
45. **Berman M,:** "Self-Assessment of the University Physicians Faculty Practice Plan". Session facilitator at the AAMC Special Conference on Faculty Practice in Transition: Vision, Realities and Requirements. Research Task Force. Chicago, Illinois, September 30, 1996.
46. **Berman M:** Keynote speaker for Howard University Hospital retreat "Integrated Health Care Systems: Academic Health Centers and Faculty Practice Plans". Washington, DC, March 21-22, 1997.
47. **Berman M., D'Antuono R:** "Assessing Faculty Productivity and the Roles of the Department Chair and Administrator". The 15th Annual Conference of the Association of Administrators in Academic Pediatrics. Banff Springs, Alberta, Canada, May 18, 1998.
48. **Berman M:** "Preparing for a Hospital Merger from a Pediatric Perspective" 15th Annual Conference of the Association of Administrators in Academic Pediatrics. Banff Springs, Alberta, Canada, May 18, 1998.

MICHAEL A. BERMAN, M.D.
Curriculum Vitae
Page 34

49. **Berman M:** Speaker for Association of American Medical Colleges "Challenges to Traditional Departmental Structures. Vancouver, British Columbia, Canada, April 22-24, 1999.

December, 2001